UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,130	02/03/2004	Jun Chen	MS1-1917US	4274

22801 7590 06/23/2011

LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

EXAMINER	
LIN, JASON K	

ART UNIT	PAPER NUMBER
2425	

NOTIFICATION DATE	DELIVERY MODE
06/23/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

Office Action Summary	Application No.	Applicant(s)	
	10/772,130	CHEN, JUN	
	Examiner	Art Unit	
	JASON LIN	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,8,9,11,13-16,25-30 and 41-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,8,9,11,13-16,25-30 and 41-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to application No. 10/772,130 filed on 04/07/2011. **Claims 34, 35, and 38** have been cancelled, **Claims 1, 8, 9, 11, 13-16, 25-30, and 41-63** are pending and have been examined.

Claim Objections

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Starting from P.11 of the claims submitted by applicant on 04/07/2011, the claims 47, 48, **the second 47**...

Misnumbered claim 47 been renumbered 49.

claim 49 been renumbered 50.

claim 50 been renumbered 51.

claim 51 been renumbered 52.

claim 52 been renumbered 53.

claim 53 been renumbered 54.

claim 54 been renumbered 55.

claim 55 been renumbered 56.

claim 56 been renumbered 57.

claim 57 been renumbered 58.

claim 58 been renumbered 59.

claim 59 been renumbered 60.

claim 60 been renumbered 61.

claim 61 been renumbered 62.

claim 62 been renumbered 63.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8, 16, 48, and 57 are rejected under 35 U.S.C 101 as not falling within one of the four statutory categories of invention. The specification, at Paragraph 0024, 0045, 0059, 0060, and 0066 teaches computer readable media, but since it does not specify what the claimed computer readable media may be, it may be software, transitory signal, etc (which are non-statutory), then the claim as a whole can be considered to be only software which is not a "process", "machine" or "article of manufacture". Claims 8 and 16 are directed towards a "computer storage media" which under broadcast reasonable interpretation can be a carrier wave or signal. In regards to Claims 48 and 57, the specifications describe that the computer readable media can be a modulated signal {transitory signal}. The phrase "article of manufacture" has been described frequently as being just a signal and therefore a claim drawn to a signal having a computer readable media under the broadest reasonable interpretation could be reasonably interpreted to be just a carrier wave or signal and therefore is not

statutory.

The claim may be amended by changing "computer storage media" to - non-transitory computer storage media -- and "article of manufacture" to –non-transitory article of manufacture -- thus excluding that portion of the scope covering transitory signals. The scope of the disclosure given the state-of-the-art covers both transitory and non-transitory media, and this amendment would limit the claim to an eligible (non-transitory) embodiment.

Response to Arguments

4. Applicant's arguments with respect to **Claims 1, 8, 9, 11, 13-16, 25-30, and 41-63** have been considered but are moot in view of the new ground(s) of rejection. However, some of applicant's remark(s) are to be addressed.

A) Applicant's assert on P.20-21 that Claim 8 should be reconsidered in view of the 101 rejection. In response the examiner respectfully disagrees. The specifications do not limit the computer storage media to just being physical media and are open ended. Please see 101 rejection above for suggestions.

B) Applicant's assert on P.23-24 that "...However, none of the cited documents, whether taken alone or in combination, teach or suggest at least the following as recited in amended claim 1 (with emphasis added)... **simultaneously display**... **each media asset being directly selectable through interaction with the EPG display**..."

In response, the examiner respectfully disagrees. D'Souza was not used to teach that portion of the limitations. Ellis already taught those limitations, simultaneously display (Paragraph 0060-0062 teaches receiving program guide data.

Paragraph 0104, 0096-0098, 0101 teaches incorporating listings such as web content, video on demand, audio, games, etc alongside regular program listings. Figs.15, 17a-b, Paragraph 0096, 0098-0099 teaches an EPG simultaneously displaying listings containing different types of media assets), and each media asset being directly selectable through interaction with the EPG display (Paragraph 0096-0098, 0101, 0104).

Therefore, in combination, the cited references of record teach the claimed limitations.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1, 8, and 47-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, and further in view of D'Souza et al. (US 2006/0117348).

Consider **claim 1,** Ellis teaches receiving, by a client device, electronic program guide (EPG) data from an EPG provider, the EPG data describing characteristics of media assets that are available from a content provider (Fig.1;

Paragraph 0060-0062 teaches main facility 34-Fig.1 distributing program guide data to television distribution facility-Fig.1 and in turn television distribution facility-Fig.1 distributing program guide data to user television equipment 40-Fig.1; Paragraph 0098, Fig.17a-b teaches where program listings data needed by the program guide to display VOD listings and program listings other than VOD listings integrated into the program guide display screen are provided to the program guide application; Including but not limited to Fig.15 also shows media listings listed along with regular program listings);

identifying, by the client one or more available media assets, the available media assets (Fig.2; Paragraph 0096-0098, 0101, 0104 teaches different applications used to output corresponding content. Paragraph 0067 teaches applications such as program guide application and non-program-guide applications may be implemented on any suitable platform such as user television equipment 40-Fig.1) including:

a media asset that is available for output through execution of an application installed on the client device, the application being selected from a group of applications (Fig.2, Paragraph 0070 teaches many different types of applications; Paragraph 0096-0098, 0101, 0104 teaches different applications used to output corresponding content {media asset}) comprising:

a web browser (Web browser application 84-Fig.2; Paragraph 0069-0070, 0096 teaches a web browser application); and

a game application (gaming services application 90-Fig.2; Paragraph 0069-0070, 0096 teaches a gaming application); and

generating, by a guide application (Program guide application 70-Fig.2, Paragraph 0070) on the client device, an EPG display based on the EPG data and available media assets, the EPG display being configured to simultaneously display different types of media assets including the media assets that are available from the content provider(Paragraph 0060-0062 teaches receiving program guide data. Paragraph 0104, 0096-0098, 0101 teaches incorporating listings such as web content, video on demand, audio, games, etc alongside regular program listings. Figs.15, 17a-b, Paragraph 0096, 0098-0099 teaches an EPG simultaneously displaying listings containing different types of media assets), each media asset being directly selectable through interaction with the EPG display (Paragraph 0096-0098, 0101, 0104);

receiving a user-submitted selection of a particular media asset represented in the EPG display, the particular media asset being selected from those being simultaneously displayed; in response to the user-submitted selection of the particular media asset being received through interaction with the EPG display, the guide application passing the user-submitted selection for execution on the client device; and an application for presenting the particular media asset; execution of the application for presenting the particular media asset (Paragraph 0096-0098, 0101, 0104);

Ellis does not explicitly teach identifying, by the client device, one or more locally available media assets, the locally available media assets including:

a local media asset previously stored on the client device from a broadcast of a content provider over the network; and

a local media asset that is available for output through execution of an application installed on the client device;

generating, by the client device, an EPG display based on the EPG data and the locally available media assets, the EPG display configured to simultaneously display different types of media assets including media assets and of the local media assets as respective different types of media assets,

in response to the user-submitted selection of the particular media asset, passing the user-submitted selection to a virtual tuner executed on the client device; and the virtual tuner executed on the client device selecting an application for presenting the particular media asset;

managing, by the virtual tuner, execution of the application for presenting the particular media asset.

In an analogous art, Hassell'615 teaches identifying, by the client device, one or more locally available media assets, the locally available media assets including: a local media asset previously stored on the client device from a broadcast of a content provider over the network; and a local media asset that is available for output through execution of an application installed on the client

device; generating, by the client device, an EPG display based on the EPG data and the locally available media assets, the EPG display configured to simultaneously display different types of media assets including media assets and of the local media assets as respective different types of media assets (Paragraph 0038-0041 teaches programs stored in digital storage device Fig.3, 4 and displaying the stored programs on a selectable programs listing grid shown in Fig. 5b for selection and playback. Paragraph 0022-0023 and 0025 teaches that the digital storage device 31-Fig.2 can be contained at the set-top box 28 {client} where user equipment 22-Fig.3 is a more generalized embodiment of user equipment 22-Fig.2).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the Ellis' system to include identifying, by the client device, one or more locally available media assets, the locally available media assets including: a local media asset previously stored on the client device from a broadcast of a content provider over the network; and a local media asset that is available for output through execution of an application installed on the client device; generating, by the client device, an EPG display based on the EPG data and the locally available media assets, the EPG display configured to simultaneously display different types of media assets including media assets and of the local media assets as respective different types of media assets, as taught by Hassell'615, for the advantage of providing stored content that is readily available allowing the user to watch/enjoy anytime and as many times desired at their own

leisure, providing entertainment readily on demand, allowing for instant satisfaction and consumption of media content.

Ellis and Hassell'615 do not explicitly teach in response to the user-submitted selection of the particular media asset, passing the user-submitted selection to a virtual tuner executed on the client device; and the virtual tuner executed on the client device selecting an application for presenting the particular media asset;

managing, by the virtual tuner, execution of the application for presenting the particular media asset.

In an analogous art, D'Souza in response to the user-submitted selection of the particular media asset, passing the user-submitted selection to a virtual tuner executed on the client device; and the virtual tuner executed on the client device selecting an application for presenting the particular media asset (Paragraph 0029, 0033, 0037-0038 teaches the user selecting a particular content and the system determining the appropriate application to use to launch the selected content by comparing to see what the content type of the selected content is);

managing, by the virtual tuner, execution of the application for presenting the particular media asset (application launcher 220-Fig.2; Paragraph 0029, 0037-0038 teaches software which manages the execution of each of the applications in response to events formed).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Ellis and Hassell'615 to include in response to the user-submitted selection of the particular media asset, a virtual tuner executed on the client device selecting an application for presenting the particular media asset; managing, by the virtual tuner, execution of the application for presenting the particular media asset, as taught by D'Souza, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, instead of having countless modules independent of one another, thus allowing for simplified system control and troubleshooting, allowing changes to be made easily and quickly applied to the user device, providing more streamlined handling of processes on the user device.

Consider **claim 8,** Ellis, Hassell'615, and D'Souza teach one or more computer storage media comprising computer executable instructions recorded thereon that, when executed on a computer, configure the computer to perform the method of claim 1 (D'Souza - Paragraph 0022-0023).

Consider **claim 47,** Ellis, Hassell'615, and D'Souza teach one or more computer-readable media devices having computer executable instructions

recorded thereon, the computer-executable instructions when executed on a computer, programming the computer to perform the method of claim 1 (D'Souza - Paragraph 0022-0023).

Consider **claim 48,** Ellis, Hassell'615, and D'Souza teach an article of manufacture having computer executable instructions recorded thereon, the computer-executable instructions when executed on a computer, programming the computer to perform the method of claim 1 (D'Souza - Paragraph 0022-0023).

7. **Claims 9, 11, 13-14, 16, 49, 56, and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), and further in view of Jerding (US 6,738,982) herein after referred to as Jerding'982.

Consider **claim 9,** Knudson'823 teaches, a method comprising:

receiving a selection made from a plurality of content using an EPG that is output by the client (Col 9: lines 5-14, Col 5: lines 43-46), wherein:

the EPG includes a representation of each said content for simultaneous display by the client (Fig.10; Col 6: lines 12-19, Col 7: line 63 - Col 8: line 6, Col 9: lines 5-14);

at least one said content is television programming (Fig.10; Col 5: lines 62-63;

providing selected content represented by the EPG (Fig.10; Col 5: lines 31-48, Col 6: lines 12-28, Col 9: lines 5-10, lines 62-67 teaches selecting and providing the content represented on the EPG);

Knudson'823 does not explicitly teach a virtual tuner executed on a client;

receiving, by the virtual tuner, a selection made from a plurality of content;

each said content is provided for output by a respective one or more of a plurality of applications;

choosing, by the virtual tuner, one or more of the plurality of applications that, when executed, provide the selected content represented by the guide, wherein the choosing is independent of any application identifying information originating from a computer distinct from the client; and

managing, by the virtual tuner without user intervention, a lifecycle of the chosen one or more applications including execution of the chosen one or more applications to output the selected content.

In an analogous art D'Souza teaches, a virtual tuner executed on a client; receiving, by the virtual tuner, a selection made from a plurality of content (application launcher 220-Fig.2; Paragraph 0029, 0037-0038);

each said content is provided for output by a respective one or more of a plurality of applications (Paragraph 0029-0030, 0037-0038);

choosing, by the virtual tuner, one or more of the plurality of applications that, when executed, provide the selected content represented by the guide,

wherein the choosing is independent of any application identifying information originating from a computer distinct from the client (application launcher 220-Fig.2; Paragraph 0029, 0037-0038 teaches software which manages the execution of each of the applications in response to events formed utilizing the guide); and

managing, by the virtual tuner without user intervention, execution of the chosen one or more applications to output the selected content (Paragraph 0029, 0037-0038).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Knudson'823s system to include a virtual tuner executed on a client; receiving, by the virtual tuner, a selection made from a plurality of content; each said content is provided for output by a respective one or more of a plurality of applications; choosing, by the virtual tuner, one or more of the plurality of applications that, when executed, provide the selected content represented by the guide, wherein the choosing is independent of any application identifying information originating from a computer distinct from the client; and managing, by the virtual tuner without user intervention, execution of the chosen one or more applications to output the selected content, as taught by D'Souza, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and

management over execution of content, instead of having countless modules independent of one another, thus allowing for simplified system control and troubleshooting, allowing changes to be made easily and quickly applied to the user device, providing more streamlined handling of processes on the user device.

Knudson'823 and D'Souza do not explicitly teach managing, a lifecycle of the chosen one or more applications including execution.

In an analogous art Jerding'982 teaches, managing, a lifecycle of the chosen one or more applications including execution (Col 3: lines 19-27 teaches a service application manager (SAM) Fig.2, 29 that handles the lifecycle of the applications including the definitions, initiation, activation, suspension and deletion of services).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Knudson'823 and D'Souza to include managing, a lifecycle of the chosen one or more applications including execution, as taught by Jerding'982, for the advantage of efficiently controlling the activation, suspension, and deletion of applications (Jerding'982 - Col 3: lines 25-27), optimizing the control and the use of resources available to the client device.

Consider **claim 11,** Knudson'823, D'Souza, and Jerding'982 teach wherein the managing is performed in response to one or more events received from the EPG (D'Souza - Paragraph 0029, 0036).

Consider **claim 13,** Knudson'823, D'Souza, and Jerding'982 teach wherein said content provided by a first said application is not compatible with a second said application (D'Souza - Paragraph 0037-0038 teaches launching different applications based on the type of content that is to be played. *Therefore, only their corresponding application can play the selected content, so content that is executable by one application is not executable by another*).

Consider **claim 14,** Knudson'823, D'Souza, and Jerding'982 teach wherein: the managing includes managing one or more windows; and at least one of said window is utilized to display the selected content (D'Souza - Paragraph 0033).

Consider **claim 16,** Knudson'823, D'Souza, and Jerding'982 teach one or more computer storage media comprising computer executable instructions recorded thereon that, when executed on a computer, configure the computer to perform the method of claim 9 (D'Souza - Paragraph 0022-0023).

Consider **claim 49,** Knudson'823, D'Souza, and Jerding'982 teach wherein the plurality of content from which the selection of each said content is made is being displayed simultaneously for selection (Knudson'823 - Fig.10; Col 6: lines 12-19, Col 7: line 63 - Col 8: line 6, Col 9: lines 5-14).

Consider **claim 56,** Knudson'823, D'Souza, and Jerding'982 teach one or more computer-readable media devices having computer executable instructions recorded thereon, the computer-executable instructions when executed on a computer, programming the computer to perform the method of claim 9 (D'Souza - Paragraph 0022-0023).

Consider **claim 57,** Knudson'823, D'Souza, and Jerding'982 teach an article of manufacture having computer executable instructions recorded thereon, the computer-executable instructions when executed on a computer, programming the computer to perform the method of claim 9 (D'Souza - Paragraph 0022-0023).

8. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, in view of Houghton et al. (US 2005/0021609), and further in view of Hassell et al (2007/0033615).

Consider **claim 15,** Knudson'823, D'Souza, and Jerding'982 teach a plurality of content (Knudson - Col 9: lines 5-14, Col 5: lines 43-46; D'Souza - Paragraph 0027), but do not explicitly teach that it includes remote content available over the Internet and local content available locally on the client.

In an analogous art Houghton teaches, remote content available over the Internet (Paragraph 0009-0010 teaches receiving web content over communications card 121-Fig.4. The web content may be sports event or a continuous series of programming that is transmitted over the internet).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include remote content available over the Internet, as taught by Houghton, for the advantage of providing programming that might have otherwise been unavailable for which a broadcast network who has viewing rights, but decides not to broadcast the event (Houghton - Paragraph 0010).

Knudson'823, D'Souza, Jerding'982, and Houghton do not explicitly teach local content available locally on the client.

In an analogous art, Hassell teaches local content available locally on the client (Paragraph 0038-0041 teaches programs stored in digital storage device Fig.3, 4 and displaying the stored programs on a selectable programs listing grid shown in Fig. 5b for selection and playback. Paragraph 0022-0023 and 0025 teaches that the digital storage device Fig.2, 31 can be contained at the set-top box 28 [client] where user equipment Fig.3, 22 is a more generalized embodiment of user equipment Fig.2, 22).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'982, and Houghton to include local content available locally on the client, as taught by Hassell, for the

advantage of providing stored programming to the user that can be watched anytime and as many times desired at their own leisure.

9. **Claims 25 and 27-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, and further in view of Takahashi et al. (US 2003/0093795).

Consider **claim 25,** Knudson'823 teaches a client (40-Fig.1) comprising:

a processor (Col 5: lines 5-7);

a network interface, communicatively coupled to the processor, configured to provide a network connection to a wide area network (WAN) (Fig.1, Col 1:line 61 – Col 4: line 43 teaches an entire network that the receiver is connected to {WAN}. Col 4: lines 33-43 teaches one or more uni or bidirectional communication paths to the receiver for delivery of content. *Therefore, the receiver inherently has a network interface for connecting to the outside network to receive the content via the communication path(s), and is communicatively coupled to the processor in order to receive, process, and display such content received*);

an output interface, communicatively coupled to the processor, the output interface configured to provide an output for rendering by a display device (television 48-Fig.1; Col 5: lines 31-38); and

a memory configured to maintain (Col 5: lines 5-7, Col 4: lines 33-43 teaches a processor that handles tasks associated with implementing a guide application, and the user device receiving different types of information, *therefore, the user device inherently has some sort of memory to store information and instructions to implement a guide application*):

the content including remote content available over the WAN (Fig.1, Col 1:line 61 – Col 4: line 43 teaches an entire network that the receiver is connected to {WAN} to receive content. Col 4: lines 33-43 teaches one or more uni or bidirectional communication paths to the receiver for delivery of content);

an electronic program guide (EPG) engine that is executable on the processor to provide an EPG for output on the output interface (Col 5: lines 5-7 teaches a program guide application handled and implemented by the processor. Col 5: lines 31-38 teaches presenting the program guide on the television 48-Fig.1), wherein the EPG simultaneously displays a plurality of representations of said content for selection (Fig.10; Col 6: lines 12-19, Col 7: line 63 - Col 8: line 6, Col 9: lines 5-14); and

selection of said representations of said content (Fig.10; Col 5: lines 31-48, Col 6: lines 12-28, Col 9: lines 5-10, lines 62-67 teaches selecting and providing the content represented on the EPG);

Knudson'823 does not explicitly teach a plurality of applications that are executable on the processor to provide an output of content on the output

interface, local content available locally on the client and the local content being comprised of user provided content;

a virtual tuner that is executable on the processor to launch one or more of said plurality of applications in response to selection of said representations of said content, independent of any application identifying information originating from a computer distinct from the client, said virtual tuner utilizing an application identification table that includes a listing of one or more applications to enable execution of each of said plurality of applications.

In an analogous art D'Souza teaches, memory (memory 212-Fig.2) configured to maintain:

a plurality of applications that are executable on the processor to provide an output of content on the output interface (Software programs 214, 216, 218, 220 – Fig.2; Paragraph 0021 teaches receiving video programming via network interface 208-Fig.2; Paragraph 0029-0030, 0037-0038 teaches different applications that may be executed to provide content outputted to the display device for display to the client, where the content can be video programming);

a virtual tuner that is executable on the processor to launch one or more of said plurality of applications in response to selection of said representations of said content, independent of any application identifying information originating from a computer distinct from the client (application launcher 220-Fig.2; Paragraph 0029, 0037-0038 teaches software which manages the execution of each of the applications in response to selection of content utilizing the guide),

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Knudson'823s system to include the client includes a plurality of applications that are executable on the processor to provide an output of content on the output interface; a virtual tuner that is executable on the processor to launch one or more of said plurality of applications in response to selection of said representations of said content, independent of any application identifying information originating from a computer distinct from the client, as taught by D'Souza, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, instead of having countless modules independent of one another, thus allowing for simplified system control and troubleshooting, allowing changes to be made easily and quickly applied to the user device, providing more streamlined handling of processes on the user device.

Knudson'823 and D'Souza do not explicitly teach local content available locally on the client and the local content being comprised of user provided content;

said virtual tuner utilizing an application identification table that includes a listing of one or more applications to enable execution of each of said plurality of applications.

In an analogous art Jerding'616 teaches, a virtual tuner utilizing an application identification table that includes a listing of one or more applications to enable execution of each of said plurality of applications (Col 11: lines 39-56; Col 10: lines 40-54; Col 11: lines 42-46).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Knudson'823 and D'Souza to include a virtual tuner utilizing an application identification table that includes a listing of one or more applications to enable execution of each of said plurality of applications, as taught by Jerding'616, for the advantage of better organization and efficiency for determining the appropriate applications to execute on the client.

Knudson'823, D'Souza, and Jerding'616 do not explicitly teach local content available locally on the client and the local content being comprised of user provided content.

In an analogous art, Takahashi local content available locally on the client and the local content being comprised of user provided content (Fig. 7; Paragraph 0083, 0086, 0094).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'616 to include local content available locally on the client and the local content being comprised of user provided content, as taught by Takahashi, for the advantage of providing stored programming to the user that can be watched anytime and as many times desired at their own leisure.

Consider **claim 27,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach manage one or more windows corresponding to the plurality of applications; and at least one of said window includes display of the selected said content (D'Souza - Paragraph 0033).

Consider **claim 28,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach the network interface is configured as a tuner for receiving one or more broadcasts of the television programming over the WAN; and the WAN is configured as a broadcast network (Knudson – Col 4: lines 33-52; D'Souza - Paragraph 0020-0021 teaches multiple customer set top boxes connected to the distribution network where they receive audio, video, and other types of data sent by the headend).

Consider **claim 29,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach wherein the content provided by a first said application is not compatible with a second said application (D'Souza - Paragraph 0037-0038 teaches launching different applications based on the type of content that is to be played. *Therefore, only their corresponding application can play the selected content, so content that is executable by one application is not executable by another*).

10. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), and further in view of Jerding (US 6,738,982) herein after referred to as Jerding'982.

Consider **claim 26,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach do not explicitly teach wherein the virtual tuner is further executable to terminate execution of the one or more said applications.

In an analogous art Jerding'982 teaches, wherein a virtual tuner is further executable to terminate execution of the one or more said applications (erding'982 - Col 3: lines 19-27 teaches service application manager (SAM) Fig.2, 29 that handles the lifecycle of applications on the system, including suspension and deletion of services).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include wherein a virtual tuner is further executable to terminate execution of the one or more said applications, as taught by Jerding'982, for the advantage of efficiently controlling the activation, suspension, and deletion of applications (Jerding'982 - Col 3: lines 25-27), optimizing the control and the use of resources available to the client device in order to save system resources.

11. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), and further in view of Knudson et al. (6,526,577) herein after referred to as Knudson'577.

Consider **claim 30,** Knudson'823, D'Souza Jerding'616, and Takahashi do not explicitly wherein the WAN is the Internet.

In an analogous art, Knudson'577 teaches a WAN includes the Internet (Col 5: lines 34-50 teaches video signals, e.g. television programs, that is distributed over communications path Fig.2c, 20. Communications path 20 may be an Internet link).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to have the WAN includes the internet, as taught by Knudson, for the advantage of providing programming to users that might otherwise be unable to receive programming over the air and do not have cable.

12. **Claim 41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, in view of D'Souza et al. (US 2006/0117348), and further in view of Shnier (US 2002/0049974).

Consider **claim 41,** Ellis, Hassell'615, and D'Souza teach wherein the guide application, responsive to the particular media asset being selected, passes a selection to the virtual tuner (Hassel - Paragraph 0096-0098, 0101, 0104; D'Sozua - Paragraph 0029, 0033, 0037-0038 teaches the user selecting a particular content and the system determining the appropriate application to use to launch the selected content by comparing to see what the content type of the selected content is), the selection including:

the user-submitted selection (Ellis - Paragraph 0096-0098, 0101, 0104; D'Sozua - Paragraph 0029, 0033, 0037-0038);

Ellis, Hassel, and D'Souza do not explicitly teach an indication of how the particular media asset is encoded or encrypted.

In an analogous art, Shnier teaches an indication of how the particular media asset is encoded or encrypted (Paragraph 0118-0120).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Ellis, Hassell'615, and D'Souza to include an indication of how the particular media asset is encoded or encrypted, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the

identification process of the system, allowing for quicker and more efficient identification of media types.

13. **Claim 42** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, in view of D'Souza et al. (US 2006/0117348), and further in view of Takahashi et al. (US 2003/0093795).

Consider **claim 42,** Ellis, Hassell'615, and D'Souza teach locally available media assets (Ellis - Paragraph 0038-0041 teaches programs stored in digital storage device Fig.3, 4 and displaying the stored programs on a selectable programs listing grid shown in Fig. 5b for selection and playback. Paragraph 0022-0023 and 0025 teaches that the digital storage device 31-Fig.2 can be contained at the set-top box 28 {client} where user equipment 22-Fig.3 is a more generalized embodiment of user equipment 22-Fig.2), but do not explicitly teach further including a user provided local media asset.

In an analogous art, Takahashi a user provided local media asset (Fig. 7; Paragraph 0083, 0086, 0094).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, and D'Souza to include a user provided local media asset, as taught by Takahashi, for the advantage of providing stored programming to the user that can be watched anytime and as many times desired at their own leisure.

14. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, in view of D'Souza et al. (US 2006/0117348), and further in view of Hoarty et al. (6,305,020).

Consider **claim 43,** Ellis, Hassell'615, and D'Souza teach wherein the managing includes:

launching the chosen one or more applications for outputting the selected said content (D'Souza - Paragraph 0029, 0037-0038).

Ellis, Hassel, and D'Souza do not explicitly teach terminating the chosen one or more applications when the outputting is completed.

In an analogous art, Hoarty teaches terminating the chosen one or more applications when the outputting is completed (Col 10: lines 11-17 teaches a program managing display of content. When outputting of the content is over, the program follows the steps of call take down {termination} as described in Col 9: lines 64-11)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, and D'Souza to include terminating the chosen one or more applications when the outputting is completed, as taught by Hoarty, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

15. **Claim 44** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, in view of D'Souza et al. (US 2006/0117348), and further in view of Grooters (US 6,883,176).

Consider **claim 44,** Ellis, Hassell'615, and D'Souza teach wherein the managing includes:

launching the chosen one or more applications for outputting the selected said content (D'Souza - Paragraph 0029, 0037-0038).

Ellis, Hassel, and D'Souza do not explicitly teach terminating the chosen one or more applications when an event is received from the EPG.

In an analogous art, Grooters teaches terminating the chosen one or more applications when an event is received from the EPG (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, and D'Souza to include terminating the chosen one or more applications when an event is received from the EPG, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

16. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to

Hassell'615, in view of D'Souza et al. (US 2006/0117348), in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 45**, Ellis, Hassell'615, and D'Souza do not explicitly teach while a first media asset is being output, receiving an event indicating a request to output a second media asset;

determining whether the application that is executing to output the first media asset is of the type to output the second media asset, wherein:

in an event that the application is of the type to output the second media asset, outputting the second media asset by the application; and

in an event that the application is not of the type to output the second media asset, terminating the application that is executing and launching a new application that corresponds to the second media asset.

In analogous art, Shnier teaches while a first media asset is being output, receiving an event indicating a request to output a second media asset; determining whether the application that is executing to output the first media asset is of the type to output the second media asset, wherein: in an event that the application is of the type to output the second media asset, outputting the second media asset by the application; and in an event that the application is not of the type to output the second media asset, launching a new application that corresponds to the second media asset (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is

encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first media asset being played by a player and when a second media asset {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second media asset. *The invention teaches the use of a combination of players since there are different files encoded in different formats with different file extensions and the players utilized to play the corresponded file format. So when the 2nd asset is of a different file format, a different player is utilized to play the 2nd asset than the player that was used to play the 1st asset*).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, and D'Souza to include while a first media asset is being output, receiving an event indicating a request to output a second media asset; determining whether the application that is executing to output the first media asset is of the type to output the second media asset, wherein: in an event that the application is of the type to output the second media asset, outputting the second media asset by the application; and in an event that the application is not of the type to output the second media asset, launching a new application that corresponds to the second media asset, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content,

providing a more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Ellis, Hassell'615, D'Souza, and Shnier do not explicitly teach terminating the application that is executing.

In an analogous art, Grooters teaches terminating the application that is executing (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, D'Souza, and Shnier to include terminating the application that is executing, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

17. **Claim 46** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US 2005/0283800), in view of Hassell et al (2007/0033615) hereinafter referred to Hassell'615, in view of D'Souza et al. (US 2006/0117348), Hassell et al. (US 2010/0180304) hereinafter referred to Hassell'304, in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 46**, Ellis, Hassell'615, and D'Souza wherein the managing includes: receiving an event that includes a universal content descriptor;

determining whether an application from the group of applications is currently providing a media asset for output;

in an instance no application from the group of applications is currently providing a media asset for output:

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or

in an instance an application from the group of applications is currently providing a media asset for output:

determining whether the event corresponds to the application currently providing the media asset for output;

in an instance the event does not correspond to the application currently providing the media asset for output:

terminating the application currently providing the media asset for output;

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or

in an instance the event corresponds to the application currently providing the media asset for output:

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action.

In an analogous art, Hassel'304 teaches determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or in an instance the event corresponds to the application currently providing the media asset for output: determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application

corresponding to the event to perform the action (Hassel - Paragraph 0080-0081, 0084 teaches program guide application and non-program guide applications implemented on a set-top box where display screens are generated by the applications. Paragraph 0148 teaches actions that are performed by the application allowing users to either rate, buy the movie, etc, where these actions are performed by the application. Paragraph 0149, 0150 teaches applications launched displayed respective content. Paragraph 0013, 0092-0096, 0113, 0144 teaches the set-top box determining the size of the display screen and the sizes of the incoming content, and the user being able to manually or automatically resize and move windows displayed on the display. *Applications are launched in their respective windows on the display to display content, where actions in the respective windows control how the application process such an action event. The moving and resizing of windows, the application windows, are controlled by the client device software, since these would be native functions of the device to coordinate, launch, and display corresponding applications in different windows in the display. Therefore, actions corresponding moving/resizing of windows are performed by the client device while other application specific functions are performed by the other applications*).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassel, and D'Souza to include determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not

to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or in an instance the event corresponds to the application currently providing the media asset for output: determining whether an action indicated by the event is to be performed by the application corresponding to the event; in an instance the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in an instance the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action, as further taught by Hassel, for the advantage of providing a more intuitive, versatile, and robust system having greater control and management over execution of content, allowing the system to maintain and execute functions in a orderly manner, delegating functions to the respective execution modules, allowing for smooth and integrated operation.

Ellis, Hassell'615, D'Souza, and Hassel'304 do not explicitly teach wherein the managing includes:

receiving an event that includes a universal content descriptor;

determining whether an application from the group of applications is currently providing a media asset for output;

in an instance the event does not correspond to the application currently providing the media asset for output:

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

in an instance an application from the group of applications is currently providing a media asset for output:

determining whether the event corresponds to the application currently providing the media asset for output;

in an instance the event does not correspond to the application currently providing the media asset for output:

terminating the application currently providing the media asset for output;

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

In an analogous art, Shnier teaches receiving an event that includes a universal content descriptor (Paragraph 0018-0120);

determining whether an application from the group of applications is currently providing a media asset for output; in an instance the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event; in an instance an application from the group of applications is currently providing a media asset for output: determining whether the event corresponds to the application currently providing the media asset for output; in an instance the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first media asset being played by a player and when a second media asset {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second media asset. *The invention teaches the use of a combination of players since there are different files encoded in different formats with different file*

extensions and the players utilized to play the corresponded file format. So when the instance where the asset to be played is of a different file format, a different player is utilized to play the new asset than the player that was used to play the previous asset);

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, D'Souza, and Hassel'304 to include receiving an event that includes a universal content descriptor; determining whether an application from the group of applications is currently providing a media asset for output; in an instance the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event; in an instance an application from the group of applications is currently providing a media asset for output: determining whether the event corresponds to the application currently providing the media asset for output; in an instance the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a

more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Ellis, Hassell'615, D'Souza, Hassel'304, and Shnier do not explicitly teach terminating the application currently providing the media asset for output;

In an analogous art, Grooters teaches terminating the application currently providing the media asset for output (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, D'Souza, Hassel'304, and Shnier to include terminating the application currently providing the media asset for output, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

18. **Claim 50** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, and further in view of Takahashi et al. (US 2003/0093795).

Consider **claim 50,** Knudson'823, D'Souza, and Jerding'982 do not explicitly teach wherein at least a second said content comprises user provided content.

In an analogous art, Takahashi wherein at least a second said content comprises user provided content (Fig. 7; Paragraph 0083, 0086, 0094).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'616 to include wherein at least a second said content comprises user provided content, as taught by Takahashi, for the advantage of providing stored programming to the user that can be watched anytime and as many times desired at their own leisure.

19. **Claims 51 and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, and further in view of Hoarty et al. (6,305,020).

Consider **claim 51,** Knudson'823, D'Souza, and Jerding'982 teach wherein the managing includes:

launching the chosen one or more applications for outputting the selected said content (D'Souza - Paragraph 0029, 0037-0038).

Knudson'823, D'Souza, and Jerding'982 do not explicitly teach terminating the chosen one or more applications when the outputting is completed.

In an analogous art, Hoarty teaches terminating the chosen one or more applications when the outputting is completed (Col 10: lines 11-17 teaches a program managing display of content. When outputting of the content is over,

the program follows the steps of call take down {termination} as described in Col 9: lines 64-11)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include terminating the chosen one or more applications when the outputting is completed, as taught by Hoarty, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

Consider **claim 53,** Knudson'823, D'Souza, and Jerding'982 teach wherein managing the lifecycle (Jerding'982 - Col 3: lines 19-27 teaches a service application manager (SAM) Fig.2, 29 that handles the lifecycle of the applications including the definitions, initiation, activation, suspension and deletion of services) includes the virtual tuner:

launching the chosen one or more applications (D'Souza - Paragraph 0029, 0037-0038; Jerding'982 - Col 4: lines 67-14, Col 3: lines 19-27);

managing windows where the output of the selected content is rendered (D'Souza - Paragraph 0033; Jerding'982 - Col 7: line 31 – Col 8: line 4).

Knudson'823, D'Souza, and Jerding'982 do not explicitly teach terminating the chosen one or more applications.

In an analogous art, Hoarty teaches terminating the chosen one or more applications (Col 10: lines 11-17 teaches a program managing display of content.

When outputting of the content is over, the program follows the steps of call take down {termination} as described in Col 9: lines 64-11)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include terminating the chosen one or more applications, as taught by Hoarty, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

20. **Claim 52** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, and further in view of Grooters (US 6,883,176).

Consider **claim 52,** Knudson'823, D'Souza, and Jerding'982 teach wherein the managing includes:

launching the chosen one or more applications for outputting the selected said content (D'Souza - Paragraph 0029, 0037-0038).

Ellis, Hassel, and D'Souza do not explicitly teach terminating the chosen one or more applications when an event is received from the EPG.

In an analogous art, Grooters teaches terminating the chosen one or more applications when an event is received from the EPG (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include terminating the chosen one or more applications when an event is received from the EPG, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

21. **Claim 54** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 54**, Knudson'823, D'Souza, and Jerding'982 do not explicitly teach while a first content is being output, receiving an event indicating a request to output a second content;

determining whether the application that is executing to output the first content is of the type to output the second content, wherein:

in an event that the application is of the type to output the second content, outputting the second content by the application; and

in an event that the application is not of the type to output the second content, terminating the application that is executing and launching a new application that corresponds to the second content.

In analogous art, Shnier teaches while a first content is being output, receiving an event indicating a request to output a second content; determining whether the application that is executing to output the first content is of the type to output the second content, wherein: in an event that the application is of the type to output the second content, outputting the second content by the application; and in an event that the application is not of the type to output the second content, launching a new application that corresponds to the second content (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first content being played by a player and when a second content {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second content. *The invention teaches the use of a combination of players since there are different files encoded in different formats with different file extensions and the players utilized to play the corresponded file format. So when the 2nd asset is of a different file format, a different player is utilized to play the 2nd asset than the player that was used to play the 1st asset*).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include while a first content is being output, receiving an event indicating a request to output a second content; determining whether the application that is executing to output

the first content is of the type to output the second content, wherein: in an event that the application is of the type to output the second content, outputting the second content by the application; and in an event that the application is not of the type to output the second content, launching a new application that corresponds to the second content, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Knudson'823, D'Souza, Jerding'982, and Shnier do not explicitly teach terminating the application that is executing.

In an analogous art, Grooters teaches terminating the application that is executing (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'982, and Shnier to include terminating the application that is executing, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

22. **Claim 55** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823 in view of D'Souza et al. (US 2006/0117348), in view of Jerding (US 6,738,982) herein after referred to as Jerding'982, in view of Hassell et al (2010/0180304) hereinafter referred to as Hassel'304, in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 55**, Knudson'823, D'Souza, and Jerding'982 does not explicitly teach

wherein the managing includes: receiving an event that includes a universal content descriptor;

determining whether an application from the group of applications is currently providing the selected content for output;

in a scenario when no application from the group of applications is currently providing the selected content for output:

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in a scenario when the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in a scenario when the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or

in a scenario when an application from the group of applications is currently providing the selected content for output:

determining whether the event corresponds to the application currently providing the selected content for output;

in a scenario when the event does not correspond to the application currently providing the selected content for output:

terminating the application currently providing the selected content for output;

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in a scenario when the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in a scenario when the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or

in a scenario when the event corresponds to the application currently providing the selected content for output:

determining whether an action indicated by the event is to be performed by the application corresponding to the event;

in a scenario when the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or

in a scenario when the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action.

In an analogous art, Hassel'304 teaches determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to

the event to perform the action; or in a scenario the event corresponds to the application currently providing the media asset for output: determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action (Hassel - Paragraph 0080-0081, 0084 teaches program guide application and non-program guide applications implemented on a set-top box where display screens are generated by the applications. Paragraph 0148 teaches actions that are performed by the application allowing users to either rate, buy the movie, etc, where these actions are performed by the application. Paragraph 0149, 0150 teaches applications launched displayed respective content. Paragraph 0013, 0092-0096, 0113, 0144 teaches the set-top box determining the size of the display screen and the sizes of the incoming content, and the user being able to manually or automatically resize and move windows displayed on the display. *Applications are launched in their respective windows on the display to display content, where actions in the respective windows control how the application process such an action event. The moving and resizing of windows, the application windows, are controlled by the client device software, since these would be native functions of the device to coordinate, launch, and display corresponding applications in different windows*

in the display. Therefore, actions corresponding moving/resizing of windows are performed by the client device while other application specific functions are performed by the other applications).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, and Jerding'982 to include determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action; or in a scenario the event corresponds to the application currently providing the media asset for output: determining whether an action indicated by the event is to be performed by the application corresponding to the event; in a scenario the action indicated by the event is not to be performed by the application corresponding to the event, causing the client to perform the event; or in a scenario the action

indicated by the event is to be performed by the application corresponding to the event, causing the application corresponding to the event to perform the action, as taught by Hassel'304, for the advantage of providing a more intuitive, versatile, and robust system having greater control and management over execution of content, allowing the system to maintain and execute functions in a orderly manner, delegating functions to the respective execution modules, allowing for smooth and integrated operation.

Knudson'823, D'Souza, Jerding'982, and Hassel'304 do not explicitly teach wherein the managing includes:

receiving an event that includes a universal content descriptor;

determining whether an application from the group of applications is currently providing the selected content for output;

in a scenario the event does not correspond to the application currently providing the media asset for output:

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

in a scenario an application from the group of applications is currently providing the selected content for output:

determining whether the event corresponds to the application currently providing the media asset for output;

in a scenario the event does not correspond to the application currently providing the media asset for output:

terminating the application currently providing the media asset for output;

identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launching the application corresponding to the event;

In an analogous art, Shnier teaches receiving an event that includes a universal content descriptor (Paragraph 0018-0120);

determining whether an application from the group of applications is currently providing the selected content for output; in a scenario the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event; in a scenario an application from the group of applications is currently providing the selected content for output: determining whether the event corresponds to the application currently providing the media asset for output; in a scenario the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to

the event (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first media asset being played by a player and when a second media asset {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second media asset. *The invention teaches the use of a combination of players since there are different files encoded in different formats with different file extensions and the players utilized to play the corresponded file format. So when the instance where the asset to be played is of a different file format, a different player is utilized to play the new asset than the player that was used to play the previous asset*);

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'982, and Hassel'304 to include receiving an event that includes a universal content descriptor; determining whether an application from the group of applications is currently providing the selected content for output; in a scenario the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event; in a scenario an application from the group of applications is currently providing the selected content for output:

determining whether the event corresponds to the application currently providing the media asset for output; in a scenario the event does not correspond to the application currently providing the media asset for output: identifying, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launching the application corresponding to the event, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Knudson'823, D'Souza, Jerding'982, Hassel'304, and Shnier do not explicitly teach terminating the application currently providing the media asset for output;

In an analogous art, Grooters teaches terminating the application currently providing the media asset for output (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'982, Hassel'304, and Shnier to include terminating the application currently providing the media asset for output, as taught by Grooters, for the advantage of freeing up resources for

subsequent use by other applications making efficient use of available resources on the system.

23. **Claim 58** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), and further in view of Shnier (US 2002/0049974).

Consider **claim 58,** Knudson'823, D'Souza, Jerding'616, and Takahashi teaches information corresponding to an entry in the application identification table (Jerding'616 - Col 11: lines 39-56; Col 10: lines 40-54; Col 11: lines 42-46), but do not explicitly teach wherein each of said plurality of said representations includes respective encoding or encrypting information.

In an analogous art, Shnier teaches wherein each of said plurality of said representations includes respective encoding or encrypting information (Paragraph 0118-0120).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include wherein each of said plurality of said representations includes respective encoding or encrypting information, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a

more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

24. **Claims 59** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), and further in view of Hoarty et al. (6,305,020).

Consider **claim 59,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach wherein the virtual tuner further is executable on the processor to cause the one or more of said plurality of applications to:

provide the content being selected to the output interface (D'Souza - Paragraph 0029, 0037-0038).

Knudson'823, D'Souza, Jerding'616, and Takahashi do not explicitly teach terminating the one or more of said plurality of applications when the outputting is completed.

In an analogous art, Hoarty teaches terminating the one or more of said plurality of applications when the outputting is completed (Col 10: lines 11-17 teaches a program managing display of content. When outputting of the content

is over, the program follows the steps of call take down {termination} as described in Col 9: lines 64-11)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include terminating the one or more of said plurality of applications when the outputting is completed, as taught by Hoarty, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

25. **Claims 60-61** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), and further in view of Grooters (US 6,883,176).

Consider **claim 60,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach wherein the virtual tuner further is executable on the processor to cause the one or more of said plurality of applications to:

provide the content being selected to the output interface (D'Souza - Paragraph 0029, 0037-0038).

Knudson'823, D'Souza, Jerding'616, and Takahashi do not explicitly teach terminate the one or more of said plurality of application when an event is received from the EPG.

In an analogous art, Grooters teaches terminate the one or more of said plurality of application when an event is received from the EPG (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include terminate the one or more of said plurality of application when an event is received from the EPG, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

Consider **claim 61,** Knudson'823, D'Souza, Jerding'616, and Takahashi teach wherein the virtual tuner further is executable on the processor to cause the one or more of said plurality of applications to:

provide the content being selected to the output interface (D'Souza - Paragraph 0029, 0037-0038; Jerding'982 - Col 4: lines 67-14, Col 3: lines 19-27);

manage windows where the output of the content being selected is rendered by the display device (D'Souza - Paragraph 0033; Jerding'982 - Col 7: line 31 – Col 8: line 4).

Knudson'823, D'Souza, Jerding'616, and Takahashi do not explicitly teach terminate one or more of said plurality of applications.

In an analogous art, Hoarty teaches terminate one or more of said plurality of applications (Col 10: lines 11-17 teaches a program managing display of

content. When outputting of the content is over, the program follows the steps of call take down {termination} as described in Col 9: lines 64-11)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include terminate one or more of said plurality of applications, as taught by Hoarty, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

26. **Claim 62** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 62**, Knudson'823, D'Souza, Jerding'616, and Takahashi do not explicitly teach wherein the virtual tuner further is executable on the processor to cause the one or more of said plurality of applications to:

while output of a first content is being rendered by the display device, receive an event indicating a second content for output;

determine whether an application that is executing to the output the first content is of the type to output the second content, wherein:

in an event that the application that is executing is of the type to output the second content, cause the application that is executing to output the second content; and

in an event that the application that is executing is not of the type to output the second content, terminate the application that is executing and launch another application from the one or more of said plurality of applications that corresponds to the second content.

In analogous art, Shnier teaches while output of a first content is being rendered by the display device, receive an event indicating a second content for output; determine whether an application that is executing to the output the first content is of the type to output the second content, wherein: in an event that the application that is executing is of the type to output the second content, cause the application that is executing to output the second content; and in an event that the application that is executing is not of the type to output the second content, launch another application from the one or more of said plurality of applications that corresponds to the second content (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first media asset being played by a player and when a second media asset {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second content. *The*

invention teaches the use of a combination of players since there are different files encoded in different formats with different file extensions and the players utilized to play the corresponded file format. So when the 2nd content is of a different file format, a different player is utilized to play the 2nd content than the player that was used to play the 1st asset).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include while output of a first content is being rendered by the display device, receive an event indicating a second content for output; determine whether an application that is executing to the output the first content is of the type to output the second content, wherein: in an event that the application that is executing is of the type to output the second content, cause the application that is executing to output the second content; and in an event that the application that is executing is not of the type to output the second content, launch another application from the one or more of said plurality of applications that corresponds to the second content, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content, and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Knudson'823, D'Souza, Jerding'616, Takahashi, and Shnier do not explicitly teach terminate the application that is executing.

In an analogous art, Grooters teaches terminate the application that is executing (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, Takahashi, and Shnier to include terminate the application that is executing, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

27. **Claim 63** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knudson (US 7,254,823) herein after referred to as Knudson'823, in view of D'Souza et al. (US 2006/0117348), in view of Jerding et al. (US 6,792,616) herein after referred to as Jerding'616, in view of Takahashi et al. (US 2003/0093795), in view of Hassell et al (2010/0180304) hereinafter referred to as Hassel'304, in view of Shnier (US 2002/0049974), and further in view of Grooters (US 6,883,176).

Consider **claim 63**, Knudson'823, D'Souza, Jerding'616, and Takahashi wherein the virtual tuner further is executable on the processor to cause the one or more of said plurality of applications to: receive an event that includes a universal content descriptor;

determine whether an application from the group of applications is currently providing output of content;

in an event no application from the group of applications is currently providing output of content:

identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launch the application corresponding to the event;

determine whether an action indicated by the event is to be performed by the application corresponding to the event;

in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or

in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action; or

in an event an application from the group of applications is currently providing output of content:

determine whether the event corresponds to the application currently providing the output of content;

in an event the event does not correspond to the application currently providing the output of content:

terminating the application currently providing the output of content;

identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launch the application corresponding to the event;

determine whether an action indicated by the event is to be performed by the application corresponding to the event;

in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or

in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action; or

in an event the event corresponds to the application currently providing the output of content:

determine whether an action indicated by the event is to be performed by the application corresponding to the event;

in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or

in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action.

In an analogous art, Hassel'304 teaches determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action; determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action; or in an event the event corresponds to the application currently providing the output of content: determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action (Hassel - Paragraph 0080-0081, 0084 teaches program guide application and non-program guide applications implemented on a set-top box where display screens are generated by the applications. Paragraph 0148 teaches actions that

are performed by the application allowing users to either rate, buy the movie, etc, where these actions are performed by the application. Paragraph 0149, 0150 teaches applications launched displayed respective content. Paragraph 0013, 0092-0096, 0113, 0144 teaches the set-top box determine the size of the display screen and the sizes of the incoming content, and the user being able to manually or automatically resize and move windows displayed on the display. *Applications are launched in their respective windows on the display to display content, where actions in the respective windows control how the application process such an action event. The moving and resizing of windows, the application windows, are controlled by the client device software, since these would be native functions of the device to coordinate, launch, and display corresponding applications in different windows in the display. Therefore, actions corresponding moving/resizing of windows are performed by the client device while other application specific functions are performed by the other applications*).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, and Takahashi to include determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the

application corresponding to the event to perform the action; determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action; or in an event the event corresponds to the application currently providing the output of content: determine whether an action indicated by the event is to be performed by the application corresponding to the event; in an event the action indicated by the event is not to be performed by the application corresponding to the event, cause the client to perform the event; or in an event the action indicated by the event is to be performed by the application corresponding to the event, cause the application corresponding to the event to perform the action, as further taught by Hassel, for the advantage of providing a more intuitive, versatile, and robust system having greater control and management over execution of content, allowing the system to maintain and execute functions in a orderly manner, delegating functions to the respective execution modules, allowing for smooth and integrated operation.

Knudson'823, D'Souza, Jerding'616, Takahashi, and Hassel'304 do not explicitly teach wherein the managing includes:

receive an event that includes a universal content descriptor;

determine whether an application from the group of applications is currently providing output of content;

in an event the event does not correspond to the application currently providing the output of content:

identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launch the application corresponding to the event;

in an event an application from the group of applications is currently providing output of content:

determine whether the event corresponds to the application currently providing the output of content;

in an event the event does not correspond to the application currently providing the output of content:

terminating the application currently providing the output of content;

identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications;

launch the application corresponding to the event;

In an analogous art, Shnier teaches receive an event that includes a universal content descriptor (Paragraph 0018-0120);

determine whether an application from the group of applications is currently providing output of content; in an event the event does not correspond to the application currently providing the output of content: identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launch the application corresponding to the event; in an event an application from the group of applications is currently providing output of content: determine whether the event corresponds to the application currently providing the output of content; in an event the event does not correspond to the application currently providing the output of content: identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launch the application corresponding to the event (Paragraph 0118-0119 teaches the present invention can be applied to audio as well as video, where content is encoded in a different manner with different file extensions can be played by a combination of players such as realplayer, windows media player, etc. Paragraph 0127-0139 teaches first media asset being played by a player and when a second media asset {ie. advertisements, news bulletin, interruption events, etc}, stopping the first asset and playing the second media asset. *The invention teaches the use of a combination of players since there are different files encoded in different formats with different file extensions and the players utilized to play the corresponded file format. So when the instance where the*

asset to be played is of a different file format, a different player is utilized to play the new asset than the player that was used to play the previous asset);

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Knudson'823, D'Souza, Jerding'616, Takahashi, and Hassel'304 to include receive an event that includes a universal content descriptor; determine whether an application from the group of applications is currently providing output of content; in an event the event does not correspond to the application currently providing the output of content: identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launch the application corresponding to the event; in an event an application from the group of applications is currently providing output of content: determine whether the event corresponds to the application currently providing the output of content; in an event the event does not correspond to the application currently providing the output of content: identify, based at least on the universal content descriptor, an application corresponding to the event from the group of applications; launch the application corresponding to the event, as taught by Shnier, for the advantage of allowing a variety of desired content to be launched and played to the user independently by the system in a centralized and unified manner, allowing for one local source to control applications to launch content, providing a more intuitive, versatile, and robust system having greater control and management over execution of content,

and simplifying the identification process of the system, allowing for quicker and more efficient identification of media types.

Knudson'823, D'Souza, Jerding'616, Takahashi, Hassel'304, and Shnier do not explicitly teach terminating the application currently providing the output of content;

In an analogous art, Grooters teaches terminating the application currently providing the output of content (Abstract; Col 4: line 46 - Col 5: line 57).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ellis, Hassell'615, D'Souza, Hassel'304, and Shnier to include terminating the application currently providing the output of content, as taught by Grooters, for the advantage of freeing up resources for subsequent use by other applications making efficient use of available resources on the system.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON LIN whose telephone number is (571)270-1446. The examiner can normally be reached on 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on (571)272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Lin/
Examiner, Art Unit: 2425

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425